

SWIFTWATER RV PARK and STORE (PWS 2250137) SOURCE WATER ASSESSMENT FINAL REPORT

May 4, 2005



State of Idaho Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated source water assessment area and sensitivity factors associated with the well and aquifer characteristics.

This report, *Source Water Assessment for Swiftwater RV Park and Store, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Swiftwater RV Park and Store drinking water system consists of one active well (Figure 1). The Swiftwater RV Park and Store is located approximately one and a half miles to the southwest of the town of Whitebird. The well received a low susceptibility rating for inorganic, volatile organic, synthetic organic, and microbial contaminants. However the well was given an overall high rating due to the fact that Hammer Creek Road is located 25 feet from the well along with the Salmon River located approximately 50 feet from the wellhead.

Based on the sampling history of Swiftwater RV Park and Store, there are no significant water chemistry issues in the tested water. Though there have not been chemical problems with the system water, Swiftwater RV Park and Store should be aware that the potential for contamination to the aquifer still exists.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the Swiftwater RV Park and Store system drinking water protection activities should first focus on correcting any deficiencies outlined in the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system’s components and its capacity). The Swiftwater RV Park and Store should look into removing the road that is approximately 25 feet from the well. In addition, the well could be susceptible to contaminants contained within the Salmon River, which is located approximately 50 feet from the wellhead. A contingency plan should be established to deal with any contamination and possible spills from the Salmon River and Highway 95. As much of the designated protection areas are outside the direct jurisdiction of the Swiftwater RV Park and Store, collaboration and partnerships with state and local agencies, and industry groups should be established and are critical to the success of drinking water protection. In addition, the well should maintain sanitary standards regarding wellhead protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineations encompass much urban and commercial land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the U.S. Environmental Protection Agency. As there is a major transportation corridor through the delineation (Highway 95), the Idaho Department of Transportation should be involved in protection activities. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR SWIFTWATER RV PARK AND STORE WHITEBIRD, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this assessment means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are included (Figure 2, Table 1). The list of significant potential contaminant source categories and their rankings used to develop the assessment is also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments for sources active prior to 1999 were completed by May of 2003. SWAs for sources activated post-1999 are being developed on a case-by-case basis. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. DEQ recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The local community, based on its own needs and limitations, should determine the decision as to the amount and types of information necessary to develop a drinking water protection program. Wellhead or drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The public drinking water system for the Swiftwater RV Park and Store is comprised of one ground water well that serves a population of approximately 25 people through 2 connections. The well is located in Idaho County, one and a half miles to the southwest of the City of Whitebird, just off of Highway 95 (Figure 1).

There are no significant water problems currently affecting the Swiftwater RV Park and Store source water. The inorganic contaminant (IOC) nitrate has been detected, but at levels below the maximum contaminant levels (MCLs) as set by the EPA. No volatile organic contaminants (VOCs), synthetic organic contaminants (SOCs), or total coliform bacteria have been detected in the well water.

Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel (TOT) zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water associated with the basalt aquifer of the Clearwater Plateau in the vicinity of the Swiftwater RV Park and Store well. The computer model used site specific data, assimilated by DEQ from a variety of sources including the Swiftwater RV Park and Store well log, operator input, local area well logs, and hydrogeologic reports summarized below. The actual data used by DEQ in determining the source water assessment delineation area are available upon request.

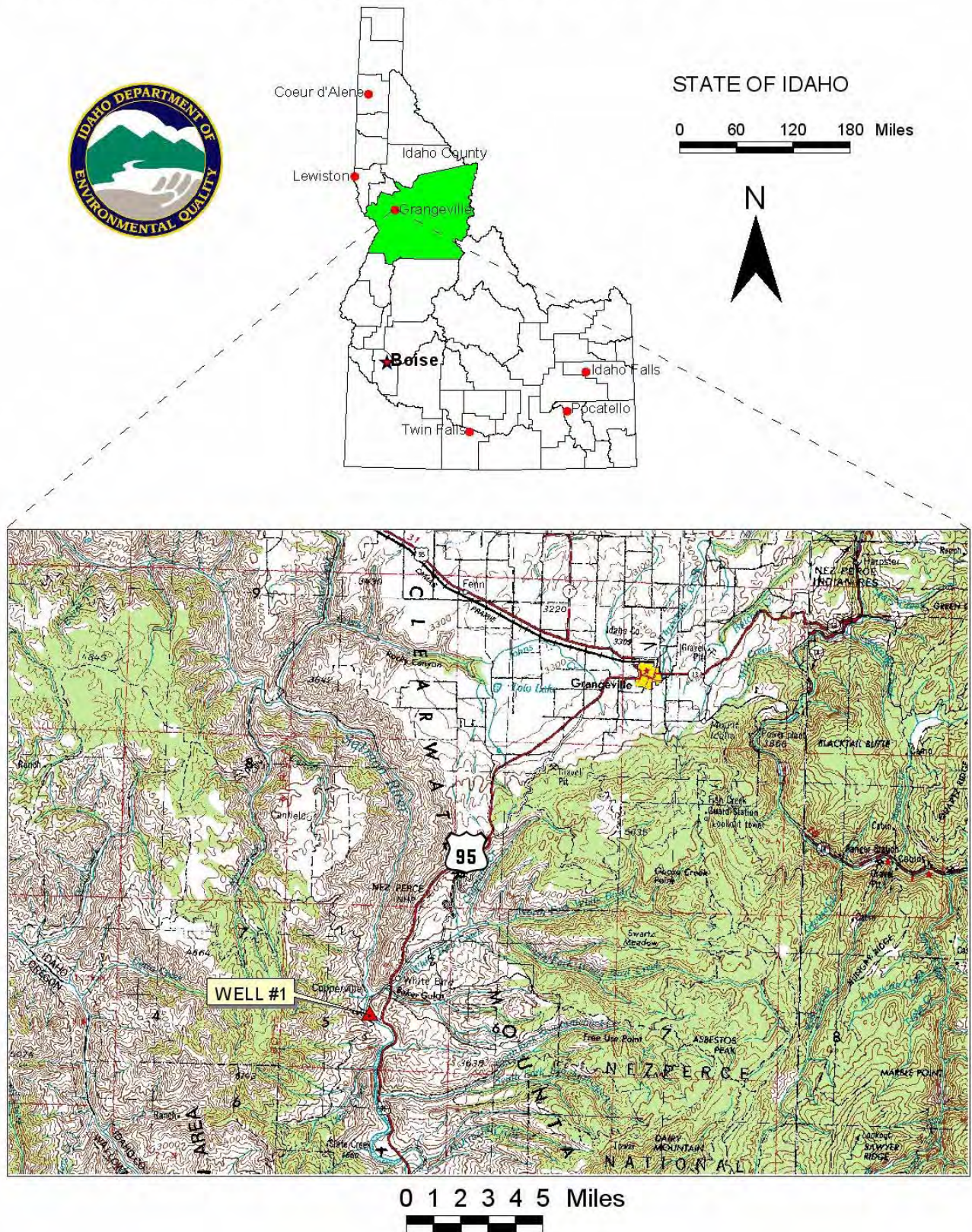
Hydrogeologic Setting

Swiftwater RV Park and Store is located approximately one and a half miles to the southwest of the town of Whitebird, Idaho. The Salmon River Flows to the north approximately 130 meters from the source well. The elevation of the study area is approximately 1466 feet above mean sea level (msl).

The well log for the source well indicates that the well is 425 feet deep. A surface seal of bentonite was emplaced to a depth of 40 feet below ground surface (bgs). A 0.250' thick steel casing was set to a depth of 58 feet bgs. The screened interval of the well is located from 385' to 425' bgs. At the time of the well completion, the static water level was 62' bgs. It should be noted that the geologic material reported in the well log appears incorrect. According to surrounding well logs and geologic maps compiled of the region, basalt formations are the dominant geologic units. The well log indicates the well encounters granite from 65 feet to the bottom of the well. It is more likely that the well driller misidentified the basalt as granite.

The conceptual model for the study area is based on the information obtained from surrounding well logs, geologic maps, and previous modeling studies conducted in the region. The geology of the site is composed primarily of Miocene basalt flows of the Columbia River Basalt Group (CRBG). The site is located at the southern-most extent of the region's extensive basalt plateau.

FIGURE 1 Site Vicinity Map of Swiftwater RV Park and Store



Fluvial deposits associated with the floodplain of the Salmon River are found adjacent to the river. These basalt flows form the rugged topography that is found in the area as the Salmon River and its tributaries have eroded away the basalt to form the steep canyons seen today.

Ground water flow direction is generally from the northeast to the southwest around the town of Whitebird. Due to the bend in the river and the influence of significant tributaries in that area, it is estimated that the ground water flow direction near the source well is more east to west, towards the Salmon River. Previous modeling studies were run by assuming the basalt formations are in hydraulic connection with the Salmon River (U of I, 2001).

The source well was modeled in WhAEM 2000, version 1.0.4 to delineate the capture zone for this well. The model was run using parameters derived from geologic maps, well logs, hydrogeologic knowledge of the area, and previous modeling studies. From these sources, base aquifer elevation, aquifer thickness, and model boundaries could be estimated.

The present capture zone delineated for this well is a composite of the various runs that were conducted while varying the different aquifer parameters. This capture zone is based on the estimated information obtained from well logs and previous research conducted in the area. The capture zone should be viewed as an estimate of the actual field conditions and could be potentially modified as more information becomes available.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of groundwater contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

Land use within the immediate area of the Swiftwater RV Park and Store wells consists of urban, residential, and a major transportation corridor, while the surrounding area is predominantly undeveloped rangeland.

It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, including educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted during October 2003. The inventory involved identifying and documenting potential contaminant sources within the Swiftwater RV Park and Store source water assessment area through the use of computer databases and Geographic Information System maps developed by DEQ (Figure 2 and Table 1). An enhanced contaminant inventory was conducted in February 2005 in which the system operator was allowed to review the potential contaminant inventory conducted by DEQ. No additional potential contaminant sources were identified by the system operator.

The delineated source water assessment area of the Swiftwater RV Park and Store well contains only one identified point source, along with the Salmon River, Bracker Gulch, Gregory Creek, Hammer Creek Road, and Highway 95 intersecting the delineation. The system should be aware that a spill on the section of Highway 95 contained within the delineations has a chance to contribute all classes of contamination to the aquifer.

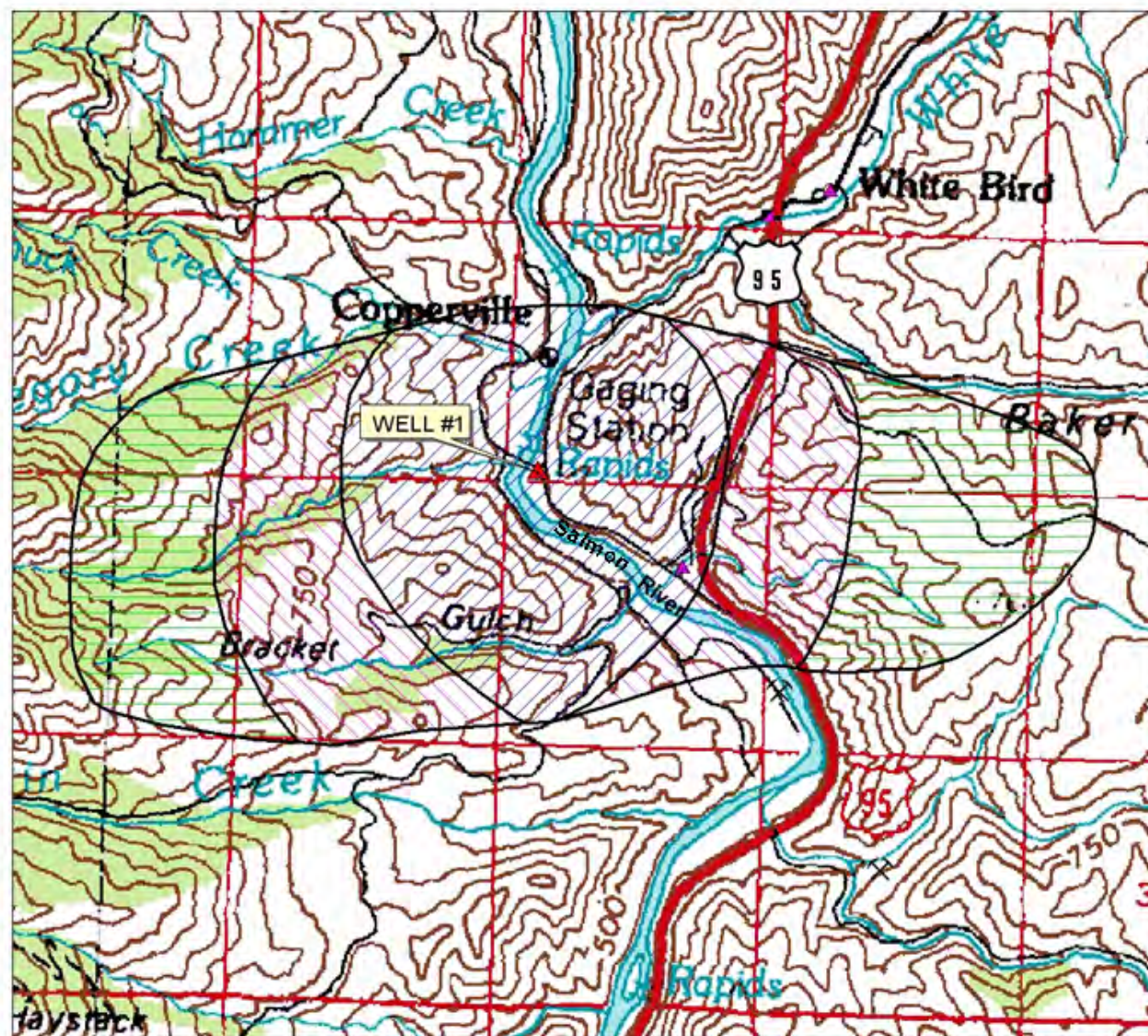
Table 1. Swiftwater RV Park and Store, Potential Contaminant/Land Use Inventory

SITE #	Source Description	TOT Zone ¹ (years)	Source of Information	Potential Contaminants ³
	UST Site	0-3 YR	GIS Map	IOC
	Hammer Creek Road	0-3 YR	GIS Map	IOC, VOC, SOC
	Salmon River	0-6 YR	GIS Map	Microbials
	Hwy 95	0-6 YR	GIS Map	IOC, VOC, SOC
	Bracker Gulch	0-10 YR	GIS Map	Microbials
	Gregory Creek	0-10 YR	GIS Map	Microbials

¹ TOT = time of travel (in years) for a potential contaminant to reach the wellhead

² IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Figure 2. Swiftwater RV Park and Store Delineation Map and Potential Contaminant Source Locations



0 0.2 0.4 0.6 0.8 1 Miles



PWS# 2250137
Well #1

Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Attachment A contains the susceptibility analysis worksheets for the system. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

Hydrologic sensitivity was moderate for the Swiftwater RV Park and Store well (Table 2). This reflects the regional soil being poorly to moderately well drained soils. Additionally an aquitard appears to be present from 0 – 60 feet bgs, consisting of broken basalt and clay. However, ground water for the well exists at a depth less than 300 feet bgs which contributed to the moderate rating of the hydrologic sensitivity of the well.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in sanitary surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced. A sanitary survey was conducted in 1999 for the system. The Swiftwater RV Park and Store well received a low system construction score.

The well log for the source well indicates that the well is 425 feet deep. A surface seal of bentonite was emplaced to a depth of 40 feet below ground surface (bgs). A 0.250" thick steel casing was set to a depth of 58 feet bgs. The screened interval of the well is located from 385' to 425' bgs. At the time of the well completion, the static water level was 62' bgs. It should be noted that the geologic material reported in the well log appears incorrect. According to surrounding well logs and geologic maps compiled of the region, basalt formations are the dominant geologic units.

The well log indicates the well encounters granite from 65 feet to the bottom of the well. It is more likely that the well driller misidentified the basalt as granite.

The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. These standards include provisions for well screens, pumping tests, and casing thicknesses to name a few. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. For example, six-inch diameter wells require a casing thickness of at least 0.288-inches and 8-inch diameter and larger casing requires 0.322-inch thick casing.

Potential Contaminant Source and Land Use

The Swiftwater RV Park and Store well rated low for land use for IOCs (i.e. nitrates, arsenic), VOCs (i.e. petroleum products, chlorinated solvents), and SOC (i.e. pesticides), and low for microbial contaminants (i.e. bacteria). There is no agricultural land within the delineation and the only other potential contaminant sources are Highway 95, the Salmon River, Bracker Gulch, Gregory Creek and a UST site.

Final Susceptibility Ranking

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. Additionally, the storage or application of any potential contaminants within 50 feet of the wellhead will lead to an automatic high score. The IOC, VOC, and SOC scores were given a final rating of high susceptibility due to the presence of Hammer Creek Road located only approximately 25 feet from the wellhead. The microbial contaminant land use score was given a high rating due to the fact that the Salmon River is approximately 50 feet west of the well. Having multiple potential contaminant sources in the 0- to 3-year time-of-travel zone (Zone 1B) and much agricultural land contribute greatly to the overall ranking. In terms of contaminant inventory, the Swiftwater RV Park and Store well rated low for IOCs, VOCs, SOC, and microbials. In terms of total susceptibility, the well rated high for IOCs, VOCs, SOC, and microbial contaminants (Table 2).

Table 2. Summary of Swiftwater RV Park and Store Susceptibility Evaluation

Well	Susceptibility Scores ¹									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well	M	L	L	L	L	L	H*	H*	H*	H*

H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

H* = Indicates source automatically scored as high susceptibility due to presence of a potential contaminant source in the delineate area.

Susceptibility Summary

The wells rated low for all categories, except for a moderate rating for the hydrogeologic sensitivity category. The poorly drained soils combined with the fact that few potential contaminant sources exist within the area contributed to the initial low scores for the system. However the final susceptibility scores were automatically rated as high due to the close locations of Hammer Creek Road and the Salmon in relation to the well. Normally removal of the sources within 50 feet of the well would reduce the overall microbial score to low, however this is not an option for the Salmon River. This may however be an option to pursue with regards to the Hammer Creek Road.

There are no significant water problems historically and/or presently affecting the Swiftwater RV Park and Store source water. The inorganic contaminant (IOC) nitrate has been detected, but at levels below the maximum contaminant level (MCL) as set by the EPA. No volatile organic contaminant (VOC), synthetic organic contaminant (SOC), or total coliform bacteria has ever been detected in the distribution system.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local drinking water protection area. A community with a fully developed drinking water protection program will incorporate many strategies. For the Swiftwater RV Park and Store system, drinking water protection activities should first focus on correcting any deficiencies outlined in the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system’s components and its capacity). No chemicals should be stored or applied within the 50-foot radius of the wellheads. The Swiftwater RV Park and Store should look into removing the road that is approximately 25 feet from the well. The well could also be susceptible to contaminants contained within the Salmon River, Whitebird Creek, Bracker Gulch, and Gregory Creek. A contingency plan should be established to deal with any contamination and possible spills from these water bodies and Highway 95. As much of the designated protection areas are outside the direct jurisdiction of the City of Whitebird, collaboration and partnerships with state and local agencies, and industry groups should be established and are critical to the success of drinking water protection. In addition, the well should maintain sanitary standards regarding wellhead protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineations encompass much urban and commercial land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few.

There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the U.S. Environmental Protection Agency. As there is a major transportation corridor through the delineation (Highway 95), the Idaho Department of Transportation should be involved in protection activities. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the DEQ or the Idaho Rural Water Association.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Lewiston Regional DEQ Office (208) 799-4370

State DEQ Office (208) 373-0502

Website: <http://www2.state.id.us/deq>

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper, Idaho Rural Water Association, at 1-208-343-7001 (harperm@idahoruralwater.com) for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100-year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5 mg/L.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

References Cited

- Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."
- Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.
- Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.
- University of Idaho (U of I), 2001. Clearwater Basin Source Water Assessment Report—Capture Zone Delineations for Source Wells at Whitebird. Idaho Water Resources Research Institute, Moscow, ID.

Attachment A

Swiftwater RV Park and Store Susceptibility Analysis Worksheets

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
- 2) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

1. System Construction		SCORE			
Drill Date		03/13/1997			
Driller Log Available		YES			
Sanitary Survey (if yes, indicate date of last survey)		1999			
Well meets IDWR construction standards		YES			
Wellhead and surface seal maintained		YES			
Casing and annular seal extend to low permeability unit		YES			
Highest production 100 feet below static water level		YES			
Well located outside the 100 year flood plain		YES			
Total System Construction Score		0			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained		YES			
Vadose zone composed of gravel, fractured rock or unknown		YES			
Depth to first water > 300 feet		NO			
Aquitard present with > 50 feet cumulative thickness		YES			
Total Hydrologic Score		2			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A		RANGELAND, WOODLAND, BASALT	0	0	0
Farm chemical use high		NO	0	0	0
IOC, VOC, SOC, or Microbial sources in Zone 1A		YES	YES	YES	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)		YES	2	1	1
(Score = # Sources X 2) 8 Points Maximum			4	2	2
Sources of Class II or III leacheable contaminants or		NO	0	0	0
4 Points Maximum			0	0	0
Zone 1B contains or intercepts a Group 1 Area		NO	0	0	0
Land use Zone 1B		Less Than 25% Agricultural Land	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B			4	2	2
Is this a transient system		Yes	Scoring completed		
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present		NO	0	0	0
Sources of Class II or III leacheable contaminants or		NO	0	0	0
Land Use Zone II		Less than 25% Agricultural Land	0	0	0
Potential Contaminant Source / Land Use Score - Zone II			0	0	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present		NO	0	0	0
Sources of Class II or III leacheable contaminants or		NO	0	0	0
Is there irrigated agricultural lands that occupy > 50% of		NO	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone III			0	0	0
Cumulative Potential Contaminant / Land Use Score			4	2	2
4. Final Susceptibility Source Score			3	2	2
5. Final Well Ranking			Low	Low	Low